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## ABSTRACT

A cooling apparatus (27) for a locomotive dynamic brake resistor grid stack (22) including a flow directing diffuser (24). The flow directing diffuser includes at least one turning vane member (26) disposed at an angle to the flow stream axis for directing a portion of the cooling air from a high velocity area of the air stream into a lower velocity area of the air stream. The flow directing diffuser may include an annular ring-shaped turning vane member (28) for directing high velocity air into a center low velocity area. The flow directing diffuser may further include a V-shaped turning vane member (32) associated with each corner (34) of the surrounding duct (36) for directing high velocity air into each corner low velocity area. Air is supplied to the duct 36 housing the flow directing diffuser by a mixed flow fan (54).